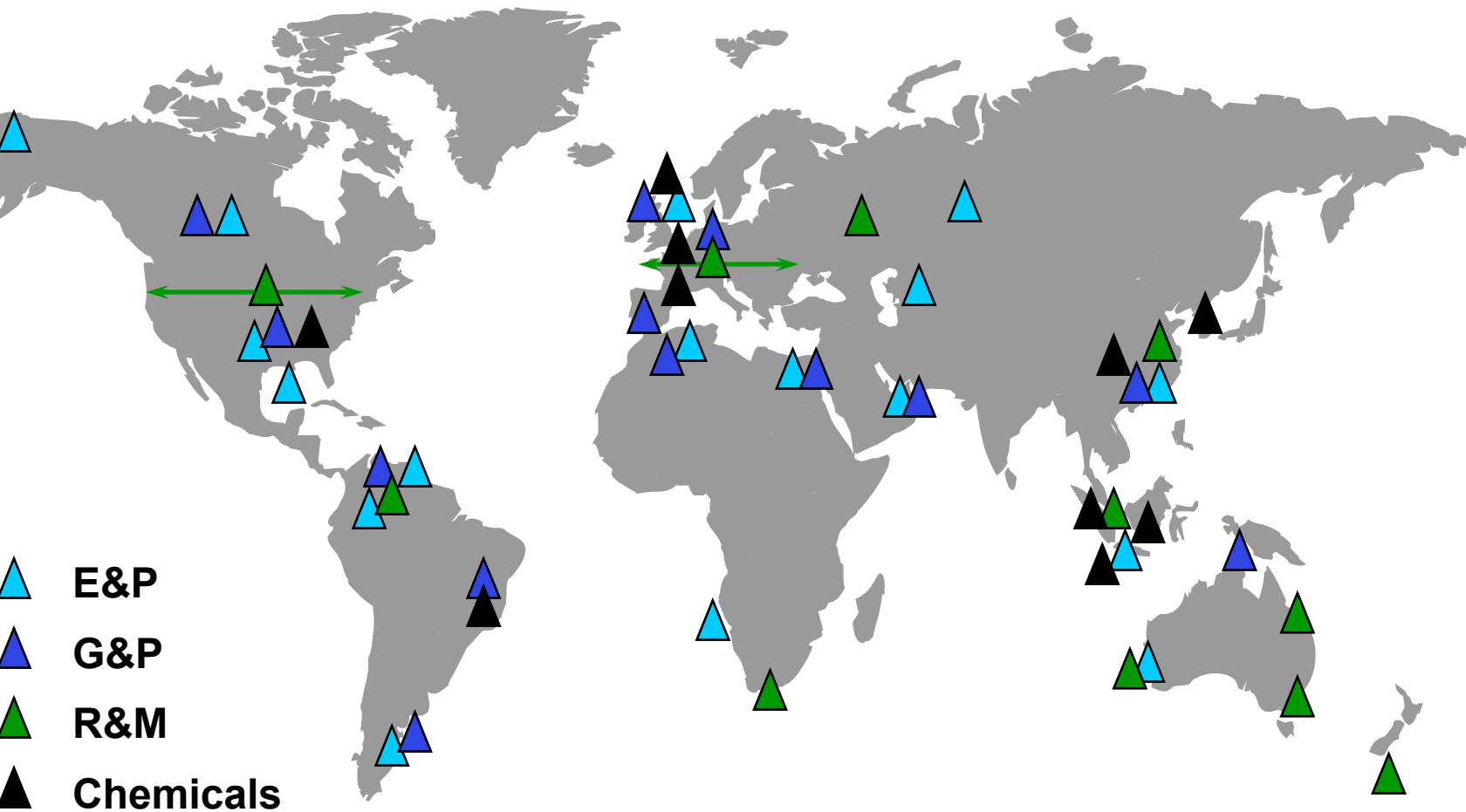




Challenges to Energy and Greenhouse Gas Reduction at BP Chemicals Plants

Brian Dinsmoor
Plant Manager
BP Chemicals, Pasadena Tx

How Do We Achieve a Common Vision and Drive Alignment ?





From Corporate Challenge to Plant Action

- Context for Decisions
- Values for Action
- The Goal
- Implementation Process
- Making It Happen
- What Are We Learning



Global Context – BP and Energy

- Population and Poverty Growth
- Standard of Living and Energy
- Globalization (or Globalisation)
- Growing Public Anxiety
- Biodiversity, Climate Change, Sustainability
- Oil and Gas is 65% of world needs and source of clean fuels
- Low Cost, Secure Supply Needed



Values and Stakeholders

- Communities and Governments See Responsible Operations
- BP Owners and Customers Find Economic Value Short and Long Term
- Employees and Business Units Are Part of a Greater Enterprise
 - Products and Services
 - Internal Operations and Technology
 - Market and Industry Participation

Renewables and Clean Fuels

- Largest Solar Company
- Clean Fuels
- Lubricants
- Hydrogen Projects





Internal Operations and Technology

- Reduced Flaring and Venting
- Operational and Equipment Improvements
- Utilities and Infrastructure
- New Process Technology
- EE Standards for New Investment
- CO₂ Capture & Storage ?
- Reduce our Footprint



Market and Industry Participation

- Product Carbon Intensity
- Chemicals Life Cycle Impact
- OEM Partnerships
- Market Mechanisms and Science
- Emissions Trading and Carbon Credits

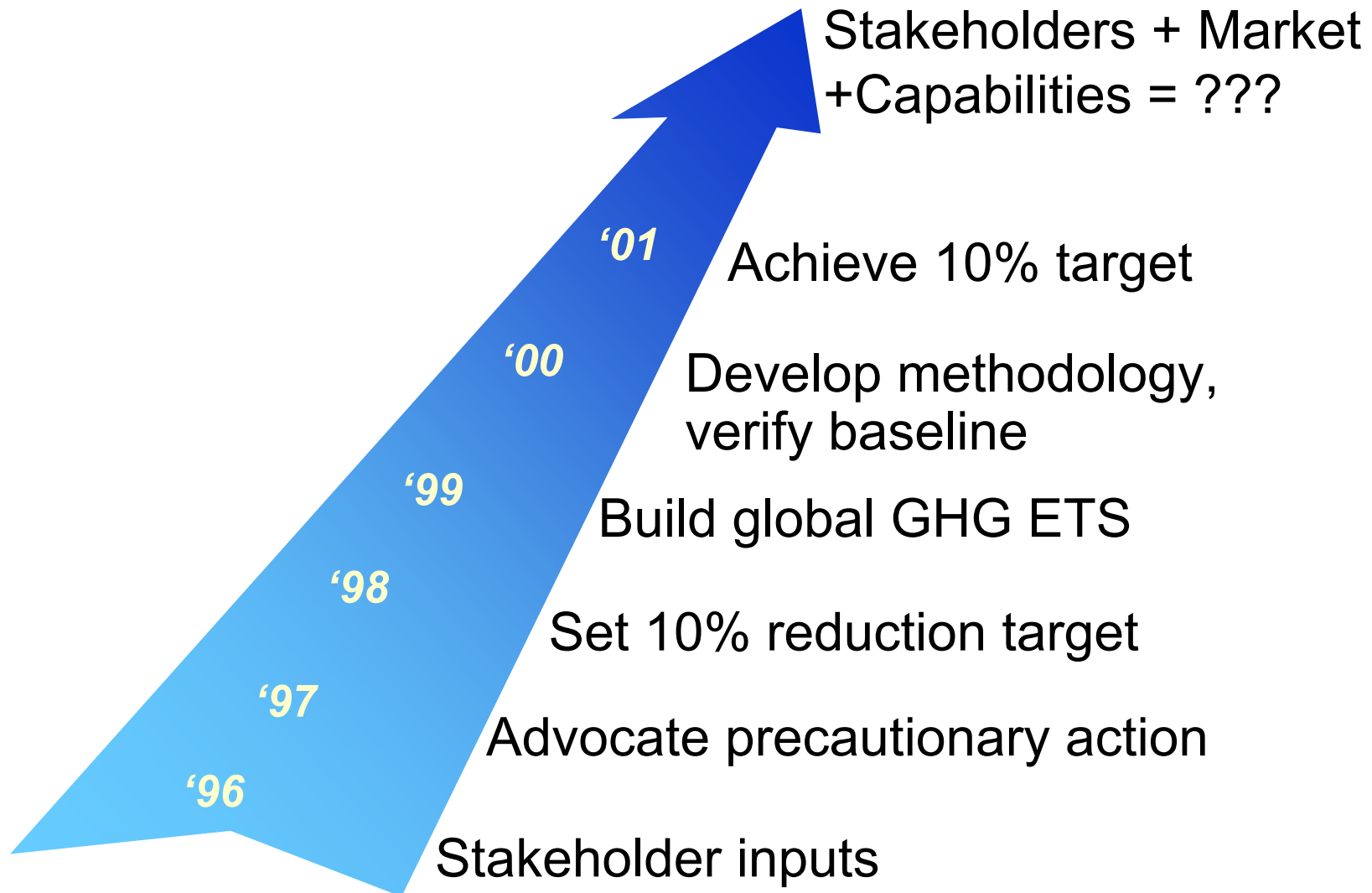


The Goal – Turn Values to Action

- Set Global Target for Greenhouse Gas Emissions – 10% below 1990 Levels by 2010
- Build Measurement System
- Share and Celebrate Energy Reduction
- Internal Emissions Trading System
- Economic Improvements
- Achieved Goal in 2001
- Impact on Organization and Business



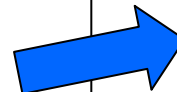
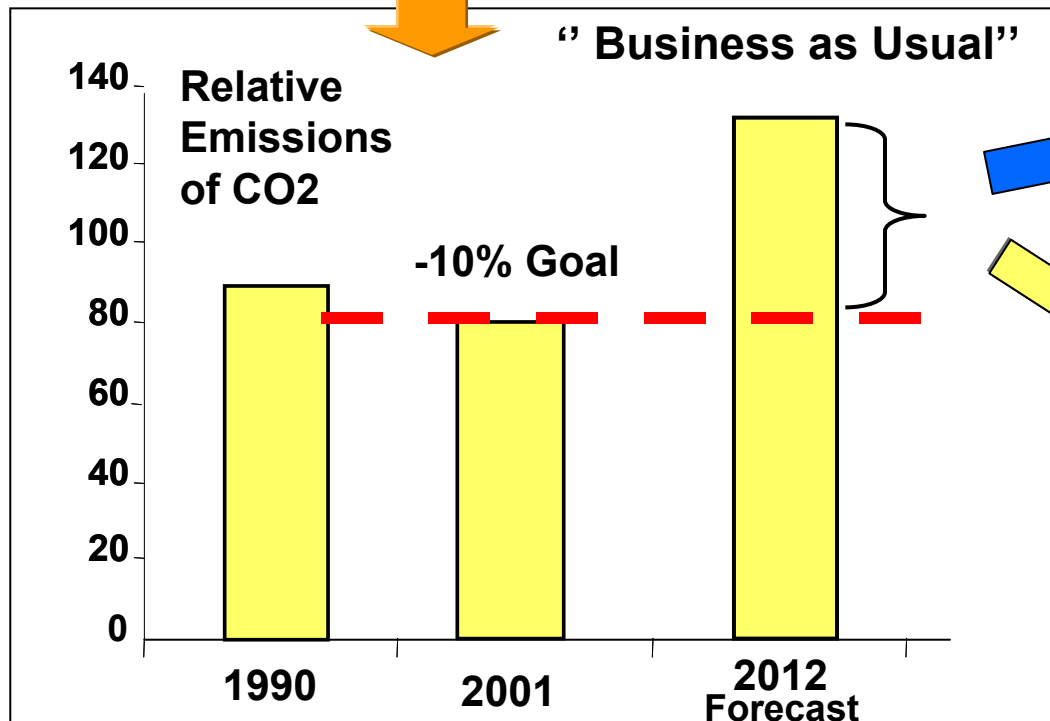
What is the Next Goal ?



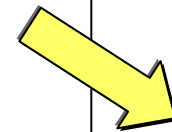
The New Goal



BP will hold net emissions at 10% below 1990, through 2012, by a combination of improvement in operational energy efficiency and use of flexible mechanisms such as GHG emissions trading and carbon credits



Carbon Credits and Trading



Energy Efficiency from New and Existing Operations



Implementation Process

- EE Targets for Upstream, Refining, Chemicals
- Standard Methodologies
- Site and Business Multi-Year Plans
- Evolve Internal Emissions Trading System to External Trading
- Evolve Carbon Credits System
- Small Corporate Teams



Chemicals Plant Actions and Learnings

- 2001 Baseline Calculations
- Counting People, Money, and Energy
- Who Owns What
- Regional and Business Teams
- BP Gas, Power & Renewables Services
- Build In Improvement Targets
- Learn and Share



Chemicals Plant Actions and Learnings

- Use Existing Planning and Reporting
- Resource Allocations
- Stage-Gate Investment Complication
- Carbon Tax Economics
- Leverage New Investment Decisions



BP Chemicals Future State

- No “Silver Bullet”
- Carbon Awareness Embedded in Everyday Business
- Supply Chain and Sustainability
- Trading
- Many Stakeholders
- We Can Meet the Challenges